BASIN, M.

Plant manufacturing nonstandard equipment for automatic transportation units. Avt.transp. 40 no.10:55-56 0 '62. (MIRA 15:11)

1. Direktor Bobruyskogo spetsial'nogo zavoda nestandartnogo oborudovaniya.

(Bobruysk—Machinery industry)

BASIN, M.A.; YEGOROV, I.T.; ISAYEV, I.I.; KRAMAREV, Ye.A.; SADOVNIKOV, Yu.M.
(Leningrad)

"Some features of the use of gaseous media to change hydrodynamical characteristics of solids moving in a fluid"

report presented at the 2nd All-Union Congress on Theoretical and Applied Mechanics, Moscow, 29 January - 5 February 1964

MOTYLEV, Yu.L., kand. tekhn. nauk; ZALESSKIY, Ye.P., prof.; KALYUZHNYY, I.S., kand. sel'khoz. nauk; AZIZOV, A.A., mlad. nauchnyy sotr.; POLETAYEV, A.V., kand. khim. nauk; ABRUTSKAYA, Ye.G., mlad. nauchnyy sotr. Prinimali uchastiye: BUTLITSKIY, Yu.V., mlad. nauchnyy sotr.; FEDOSEYEVA, T.I., mlad. nauchnyy sotr.; BIRUL',A.K., prof., doktor tekhn. nauk, retsenzent; ZVERINSKIY, G.I., inzh., retsenzent; KOVALEV,T.G., inzh., retsenzent; BASIN,M.M.,inzh., retsenzent; DEBERDEYEV, B.S., red.; DONSKAYA, G.D., tekhn. red.

[Stability of earth roadbed and road mats in regions with artificial irrigation] Ustoichivost' zemlianogo polotna i dorozhnykh odezhd v raionakh iskusstvennogo orosheniia. [By] IU.L.Motylev i dr. Moskva, Nauchno-tekhn.izd-vo M-va avtomobil'nogo transp.i shos. dorog RSFSR, 1961. 178 p. (MIRA 15:2)

(Uzbekistan—Road construction) (Uzbekistan—Irrigation)

NAYGUZ, N.I.; BASIN, M.N.

New types of automatic control of hydraulic presses. Kuz.-shtam. proizv. 1 no.3:28-32 My '59. (MIRA 12:10)
(Power presses) (Automatic control)

NAYGUZ, N.I.; BASIN, M.N.

Hydraulic gag presses with a capacity of 800 tons. Kuz.-shtam. proizv. 6 no.1:40-42 Ja '64. (MIRA 17:3)

NAYGUZ, Natan Iosifovich; BASIN, Mikhail Natanovich; MOKROV, I.I., inzh., retsenzent; PILIPENKO, Yu.P., inzh., red.; GORNOSTAYPOL'SKAYA,M.S., tekhn. red.

[Presses for cold briquetting of metal scrap] Pressy dlia kholodnogo briketirovaniia metallicheskoi struzhki. Moskva, Mashgiz, 1963. 94 p. (MIRA 16:6)
(Power presses) (Scrap metals)

ABSTRACT: This Author Certificate presents a device for pressure casting of plastics and nonferrous metals (see Fig. 1 on the Enclosure). The device contains

of a movable and a stationary traverse connected by aligning columns. The ... displacement of the traverses is brought about by compressing hydraulic cylinders.

ASSOCIATION:

Card 1/3

28913 BASIN, M. O Massovom Razvitii Sadovodstva Rabochikh i Sauzhamikh. Izadachi Lrofsoyuzovi. Prof. Soyuzy, 1949, No. 9, s,16-18.

SO: Letopis' Zhurnal'nykh Statey, Vol. 39, Moskva, 1949

Sady rabochikh i sluzhashchikh [Gardens for Blue-and-white-collar workers]. Moskva, Profizdat, 1952. 96 p.

SO: Monthly List of Russian Accessions, Vol. 6, No. 2, May 1953

1. BASIN, M. Z.

2. USSR (600)

4. Fruit Culture

7. Cooperative fruit growing by workers and administrative employees. Sad i og. no. 10, 1952.

9. Monthly List of Russian Accessions, Library of Congress, January, 1953. Unclassified.

Vegetable Gardening

For a high yield in workers' and employees' gardens. V pom. profaktivu. 14, No. 5, 1953.

Spravochnik Po Ogorodnichestvu (Manual of Vegetable Gardening, By) M. Basin (I) A. Tutsevich. 7 Izd., Dop. (Moskva) Profizdat, 1954. 199 P. Illus., Diagrs., Tables (V Pomoshch' Rabochim I Cluzhashchimogorodnikam)

BASIN, M.Z.; GUTSEVICH, A.Ya.

[Vegetable gardening manual] Spravochnik po ogorodnichestvu. Izd.8., dop. [Moskva] Profizdat, 1956. 230 p. (MLRA 9:12)
(Vegetable gardening)

BASIN, Mark Zalmanovich, ; GUTSEVICH, Aleksandr Yakovlevich; KUZNETSOVA, N.I., redaktor; KIRSANOVA, N.A., tekhnicheskiy redaktor.

[Vegetable gardening manual] Spravochnik po ogorodnichestvu. Izd. 9-oe. [Moskva] Izd-vo VTsSPS Profizdat, 1957. 252 p. (MIRA 10:6)

(Vegetable gardening)

BASIN, M.A.; GUTSEVICH, A.Ya.

[Manual of vegetable gardening] Spravochnik po ogorodnichestvu. Izd. 10, ispr. i dop. [Moskva] Profizdat, 1958. 300 p. (MIRA 11:10)
(Vegetable gardening)

BASIN, M.Z., agronom

Community orchards. Zdorov'e 4 no.6:27 Je '58 (MIRA 11:6)
(FRUIT CULTURE)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203830002-3"

BASIN, M.

Inadequate manual ("The legal status of garden plot owners'. associations of workers and employees" by I.F.Pokrovskii. Reviewed by M.Basin. Sov.profsoiuzy 7 no.23:61-62 D '59. (MIRA 12:12)

(Gardening) (Land tenure) (Pokrovskii, I.F.)

BASIN, M.

Spring work in vegetable gardens. Sov. profsoiuzy 17 no.7:37 Ap '61. (MIRA 14:3)
(Vegetable gardening) (Trade unions)

BASIN, N.G.

Devices for mechanizing the measurement of linear dimensions. Izm.tekh. no.5:5-7 My '60. (MIRA 14:5)

(Length measurement)

BASIN, S.; ZYAZEV, V.; SMIRNOV, O.; SHUSTOV, A.

Organizing centralized intercity freight haulage by means of public automotive transportation. Avt. transp. 36 no. 6:4-9 Je '58.
(MIRA 11:7)
(Transportation, Automotive)

BASIN, S., kand. tekhn. nauk, inzh.-polkovnik

To aid the dissemination of information on military equipment ("Tank" by V.M. Selivokhin. Reviewed by S. Basin). Voen. vest. 39 no.10:88-89 O '59. (MIRA 13:2)

(Tanks (Military science))
(Selivokhin, V.M.)

BASIN, S., kand.tekhn.nauk, inzh.-polkovnik

"Amphibious track-laying and wheeled vehicles" by M.G.Red'kin. Reviewed by S.Basin. Voen.vest. 39 no.8:88-89 Ag '60. (MIRA 14:2)

(Motor vehicles, Amphibious) (Red'kin, M.G.)

BALAKAYEV, T., kand. istoricheskikh nauk; BASIN, V.

Petroleum workers cf Kazakhstan in the struggle for increased petroleum yields during the Great Patriotic War. Vest. AN Kazakh. SSR 17 no.9:23-33 S '61. (MIRA 16:8)

IVANCHENKO, I.P., inzh.; BASIN, V.S., inzh.

SPGN-12 hill-drop planter for sugar beets. Trakt.i sel'khozmash. no.8:27-29 Ag '59. (MIRA 12:11)

1. Ukrainskiy nauchno-issledovatel'skiy institut sel'skokhozyaystvennogo mashinostroyeniya (UkrNIISKhOM)
(Planters(Agricultural machinery))

BASIN, V.S., inzh.

Investigating the seeding apparatus of single-seed sugar beet planters. Trakt.i sel'khozmash. 31 no.2:24-27 F '61. (MIRA 14:7)

1. Ukrainskiy nauchno-issledovatel'skiy institut sel'khozmashinostroyeniya.

(Planters (Agricultural machinery))

BASIN, V.S., inzh., KRAYEVOY, V.A., inzh.

Use of roentgenography in studying the operating process of high precision planters. Trakt. i sel'khozmash. no.7:36-37 Jl '65. (MIRA 18:7)

1. Ukrainskiy nauchno-issledovatel'skiy institut sel'skokhozyaystvennogo mashinostroyeniya.

BASIN, [illegible]; BALAKA[illegible], [illegible], kand. ist. nauk, otv. red.; FAL[illegible]OVA, Z.N., red.

[Heavy industry of Kazakhstan in the Great Patriotic War; an historical study] Tiazhelaia promyshlennost' Kazakhstana v Velikoi Otechestvennoi voine; istoricheskii ocherk. Alma-Ata, Nauka, 1965. 162 p. (MIRA 18:7)

ACC NR. AP6000970 (A) SOURCE CODE: UR/0286/65/000/022/0056/0056

AUTHORS: Badenkov, P. F.; Uzina, R. V.; Bosin, V. Ye.

ORG: none

TITLE: An adhesive for securing textile materials to rubber. Class 39, No. 176387 [announced by Scientific Research Institute of the Tire Industry (Nauchno-issledovatel'skiy institut shinnoy promyshlennosti)]

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 22, 1965, 56

TOPIC TAGS: adhesive, adhesive bonding, adhesion, resorcinol, formaldehyde, resin, polymer, copolymerization, vinyl

ABSTRACT: This Author Certificate describes a method for obtaining an adhesive for securing textile materials to rubber, on the basis of foam rubber and thermoactive resorcinol-formaldehyde resin. To improve the technological properties of the adhesive, the foam rubber is manufactured from liquid copolymerization products derived from copolymerization of divinyl with methacrolein, divinyl with acrylonitrile, and methacrolein and divinyl with styrene and methacrolein. The components are mixed in the proportions of 5 to 20 wt parts of foam rubber.

SUB CODE: 11/ SUBM DATE: 26Mar63

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BASIN, V.Ye.

Improved mold for the "H" adhesion test. Kauch. i rez. 16 no.6: 36-37 Je '57. (MIRA 10:10)

1.Nauchno-issledovatel'skiy institut shinnoy promyshlennosti.
(Rubber--Testing)

AUTHORS: Uzina, R.V., Basin, V.Ye., Dostyan, M.S.

TITLE: The Strength of the Bond Between Tyre Cord - Adhesive and Rubber (K voprosu o prochnosti svyazi sistemy kord - adgeziv - rezina)

PERIODICAL: Kauchuk i rezina, 1958, Nr 7, pp 13 - 18 (USSR)

ABSTRACT: The authors consider that theories which regard the adhesion between polymers as being a function of intermolecular and chemical interaction satisfy experimental finding better than other theories.
The basic point of failure in the system, tyre cord - adhesive - rubber is usually at the interface between the adhesive and the rubber.
In order to increase the strength of bond at this point, it is essential to raise intermolecular action by incorporating substances with active functional groups which will bring about chemical bonds between the adhesive and rubber.
The adhesive or material with which the cord is impregnated must have sufficient cohesiveness to withstand dynamic deformations, have high elastic modulus, high peel strength and good thermal resistance.

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The method of "luminescent analysis" (Ref 5) with ultra-violet light was used to study the boundaries at which failure occurs. Figure 1a shows characteristics of adhesive failure at the adhesive-rubber interface and Figure 1b of cohesive failure. Further studies were made of threads of the cord from tyres which had failed under high magnification - Figure 2.
The usual impregnating material for cord is non-polar (natural latex or divinyl-styrol), and does not increase adhesion between cord and rubber. Addition of polar substances to this, non-polar, latex increases adhesion. Figure 3 shows this gain in strength with up to 30% addition by weight of, Curve 1, resorcinal formaldehyde and, Curve 2, casein. Figure 4 shows the improvement with different percentages of (4a) carboxyl groups and (4b) vinylpiridine groups in the latex with different rubbers - the top curve being natural rubber, the middle SKB and the bottom SKS-ZOAM in each case.
The addition of albumens or caseins in latex raises the intermolecular action with cellulose and the addition

of resorcinal formaldehyde increases chemical interaction - Figure 5a. Curves 1 for the latter and Curves 2 for casein. Figure 5b shows the result of similar additions on the strength of the bond to SKB rubber. Addition of resorcinal-formaldehyde to latexes which already contain functional groups must be made with discretion and can, in some cases, decrease the bond strength through increased inter-molecular action within the film of impregnant itself. Figure 6 illustrates this.
The question of introduction of vulcanising agents into the cord impregnating material is considered. Data suggests that sulphur should not be added since it will migrate into the cord from the rubber in any case. Addition of sulphur to impregnants of latex-casein composition worsen the resistance to repeated compression, as shown in Table 1. Addition of an accelerating agent DMASK to latex-casein or latex-resorcinal-formaldehyde impregnants improve this resistance - Table 2.
Further work confirms the importance of good bonding between cord and rubber with field tests - Figure 7.
Other figures show the influence of additions of resorcinal-

formaldehyde on the breaking stre _th, modulus and proportional elongation of latex films and, similarly, for additions of carboxyl functional groups - Figures 8 and 9, respectively.
Finally, consideration is given to the nature of the adherents in relation to adhesion. A roughened cord surface improves adhesion. Channel black in the rubber composition is good and substances such as benzyl chloride, and benzotrichloride lead to stronger bonds through increased chemical reaction. The effect of small additions of the latter into the rubber composition is shown in Figures 10 and 11, the cord impregnant in this case being divinyl-2-metyl-5-vinylpiridine latex. There are 10 figures and 12 references, 9 of which are Soviet, 2 English and 1 German.

ASSOCIATION: Nauchno-issledovatel'skiy institut shinnoy promyshlennosti (Scientific Research Institute of the Tyre Industry)

Card4/4

1. Tires--Design 2. Tires--Mechanical properties 3. Polymers --Adhesion 4. Tires--Test results

AUTHORS: Uzina, R.V. and ~~Basin, V.Ye.~~ SOV/138-58-11-5/14

TITLE: Gas Permeability of Rubber-cord Material (Gazopronitsayemost' rezino-kordnykh sistem)

PERIODICAL: Kauchuk i Rezina, 1958, Nr 11, pp 18 - 21 (USSR)

ABSTRACT: Permeability of gas through a polymer film results from absorption into the film, diffusion through the film and desorption on the other side. Initially, the gas is fully absorbed into the film and there is no desorption. The rate of diffusion then gradually increases and finally attains a constant rate. The factors involved are strongly influenced by temperature and are related to the energy of activation of the material.
Permeability tests were made using a Varburg apparatus, the diffusion chamber of which is shown in Figure 1. The diameter of the rubber-cord specimen is made the same as that of the perforated plate in the chamber, 103 mm. The rubber-cord specimen is surrounded by a ring of plain rubber which is vulcanised to the test specimen, as in Figure 2 and provides an edge seal of the same thickness as the specimen. In order to measure gas penetration along the cord, other specimens were prepared as in

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Figure 3, where a thread of cord material is bonded between two rubber layers and protrudes through them at the ends of the thread.
The permeability of the sample is determined by formula (1) from pressure difference in a manometer connected to the chamber below the sample which has area A and thickness d . The specific permeability $Q = P/d$ for a sample of unit thickness is given in Eq (2), where $P_1 - P_2$ is the pressure difference by the manometer on conclusion of a test of duration H seconds at a temperature of T °abs . Formula (3) gives the quantity of gas Q , penetrating along a thread or capillary of area S .
Figures 4 and 5 plot quantity of nitrogen gas diffusing through natural rubber - viscose cord samples with the cord impregnated with various latex impregnating mixes, and also the quantity diffusing through plain film made from the same latex compositions. Quantity is plotted against pressure in Figure 4 and against temperature in Figure 5. The fact that the impregnated cord samples and the latex film samples have similar curves, suggests that permeability is determined primarily by the rubber covering layers and

the layer of impregnating material. Table 1 shows the influence on permeability of various polar additives to films of latex compositions used for cord impregnation, Table 2 - the influence of various impregnating compositions on the permeability of natural rubber - viscose card specimens. Permeability is sharply reduced by addition of casein or resorcinal formaldehyde to the latex impregnant. Table 3 gives permeability of rubber-cord specimens with natural, natural plus butyl and of chloroprene rubbers in conjunction with cotton, viscose and with nylon cords in both impregnated and unimpregnated conditions. Chloroprene rubber shows very low permeability as compared with natural rubber. The influence of the depth of impregnation into the cord fabric and into individual threads from the cord is shown in Table 4. Diffusion through the cord fabric in a direction perpendicular to the fabric is influenced little by depth of impregnation but permeation along the threads is strongly influenced by this factor. In the event of a puncture or damage to the tyre, causing the ends of the cord threads to be exposed, permeation along the threads could be considerable if they are not deeply impregnated. Table 5 shows the quantity of gas permeating along the threads of rubber-cord samples made up with cords of cotton, of viscose and of nylon material in both impregnated and unimpregnated condition. There are 5 figures, 5 tables and 13 references, 7 of which are Soviet, 5 English and 1 French.

ASSOCIATION: Nauchno-issledovatel'skiy institut shinnoy promyshlennosti (Research Institute for the Tyre Industry)

SOV/138-59-3-...

AUTHORS: Tsaylingol'd, V.L., Farberov, M.I., Epshteyn, V.G., Uzina, R.V., Peyzner, A.B., Boguslavskiy, D.B., Sigrova, G.A., Basin, V. Ye. and Shmurak, I.L.

TITLE: Preparation of Latexes Obtained by the Copolymerisation of Butadiene and 2-Methyl-5-Vinylpyridine, and Their Use for Impregnating Tyre Cords (Polucheniye lateksov sopolimerizatsiyey butadiyena s 2-metil-5-vinilpiridinom i primeneniye ikh dlya propitki shinnogo korda)

PERIODICAL: Kauchuk i rezina, 1959, Nr 3, pp 6 - 9 (USSR)

ABSTRACT: The addition of copolymers of butadiene and 2-methyl-5-vinylpyridine, and also of tripolymers consisting of butadiene-styrene, and 2-methyl-5-vinylpyridine, increases the bond strength between the rubber and the cord by 80 to 100% (Ref 5 - 8). The copolymerisation of butadiene and 2-methyl-5-vinylpyridine was investigated and the obtained latexes were evaluated as impregnating agents. The two compounds were copolymerised at 5° and 50°C. In both tests salts of synthetic fatty acids were used as emulsifiers and "Leukanol" was added as stabiliser. Potassium persulphate was used as polymerisation initiator and 0.01 to 0.005 weight/volume of Trilon B when the

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process was carried out at 50°C (isopropylbenzene hydroperoxide was used when the copolymerization proceeded at 5°C). Furthermore, 0.001% methyl-p-aminophenol was added as polymerisation inhibitor. Results in Table 1 indicate that the addition of the inhibitor does not affect the rate of copolymerisation. The reaction was allowed to proceed (at both process temperatures) until a 75 to 80% conversion was reached after 8 to 12 hours (Figure 1). The unreacted monomers were separated from the latex by vacuum distillation and 2% of Neozone D added to the prepared latex. The effect of the addition of Diproxid (diisopropyl xanthogen disulphide) on the hardness of the copolymer was tested (Figure 2). Both types of the latex showed good mechanical properties. The latex was further used for impregnating viscose and polyamide cords

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in conjunction with rubbers based on natural, butadiene (SKB) and with butadiene-styrene (SKS-30AM) rubbers. The quantity of 2-methyl-5-vinylpyridine contained in the latex affects the bond strength between the viscose cord and the rubbers (Figure 3). Optimum strength of the bond is achieved when resorcinol formaldehyde resins are added to the copolymer (Figure 4). Improved physical and mechanical properties of the adhesive films result when 10% by weight of 2-methyl-5-vinylpyridine are added (Table 2). The effect of various quantities of resorcinol-formaldehyde resins on the strength of bonding between the cord and the rubber was investigated (Figures 5a, б and β). Changes in the plasticity of the polymer affect the physical and mechanical properties of the adhesive film and the bonding between the cord and the rubbers. Results of relevant experiments are shown in Figure 6. The physical and mechanical properties of the adhesive are improved and the strength of bonding is increased when lowering the polymerisation temperature (Table 3).

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Table 4 gives the data on the strength of bonding of the viscose cord with various tyre rubbers. The strength of bonding was particularly satisfactory when natural rubber was used and when the latexes were polymerised at 5°C.
There are 7 figures, 4 tables and 10 references of which 8 are English and 2 Soviet.

ASSOCIATION: Nauchno-issledovatel'skiy institut monomerov dlya SK; Nauchno-issledovatel'skiy institut shinnoy promyshlennosti; Vsesoyuznyy nauchno-issledovatel'skiy institut sintetich-eskogo kauchuka; Yaroslavskiy shinnyy zavod (Research Institute for Monomers for the use in Synthetic Rubber; Research Institute for the Tyre Industry; All-Union Research Institute for Synthetic Rubber; Yaroslavl' Tyre Factory)

S/138/60/000/002/007/009
A051/A029

AUTHORS: Uzina, R.V., Basin, V.Ye.

15 15

TITLE: A Study of the Nature of Destruction in Cord-Adhesive-Rubber Systems

PERIODICAL: Kauchuk i Rezina, 1960, No. 2, pp. 28 - 35

TEXT: The authors point out two types of destruction which may occur in the cord-adhesive-rubber system: 1) lamination at the interface between cord-adhesive and adhesive-rubber, 2) destruction of the rubber, the cord and the adhesive film. The present article deals with the first type of destruction only. The work carried out by the authors in this connection was directed at selecting and perfecting a method for determining the location of the destruction and at the study of the interface lines between adhesive-cord and adhesive-rubber, using the usual methods. The types of rubber, impregnation compositions and the cords used are listed in Table 1. The method applied is fully outlined, whereby the luminescence analysis method, described in References 1 - 3, was utilized. Cross-sections of the samples were studied under the microscope in order to determine the depth

S/138/60/000/002/007/009
A051/A029

A Study of the Nature of Destruction in Cord-Adhesive-Rubber Systems

of penetration of the rubber into the tissue. A number of microphotographs are submitted. Each interface is discussed individually and supplemented with the microphotographs taken. The adhesive film is also discussed. It was established that no destruction takes place along the cord-adhesive interface in the system cord-adhesive rubber. It was shown that the main forms of lamination which take place in the cord-adhesive-rubber system are: a) the cohesive type: along the adhesive film layer, b) the mixed type: with part of the adhesive migrating onto the rubber and part of the rubber migrating to the cord, c) the adhesive type: along the interface adhesive-rubber. Therefore, the interface between the adhesive and the rubber and also the adhesive film is considered as the weak part of the system. In going over the results of the experiments, the authors state that the derived conclusions are not unexpected, since most of the work carried out for the strengthening of the rubber-cord system in the USSR was directed primarily at this weak spot, i.e., the adhesive-rubber interface. There are 8 sets of microphotographs, 5 tables and 12 Soviet references.

S/190/60/002/010/006/026
B004/B054

AUTHORS: Basin, V. Ye., Shvarts, A. G.

TITLE: Determination of the Density of Cohesion Energy of Some Synthetic Rubbers

PERIODICAL: Vysokomolekulyarnyye soyedineniya, 1960, Vol. 2, No. 10, pp. 1470-1474

TEXT: The authors determined the density of cohesion energy of the following rubber types (Table 1): 1) Divinyl styrene rubbers of the types СКС-30А (SKS-30A, 25.4% of styrene) and СКС-30ШХП (SKS-30ShKhP, 28% of styrene); 2) divinyl methyl vinyl pyridine rubbers of the types СКМВП-5тр (SKMVP-5tr, 21% of styrene and 3.5% of 2-methyl-5-vinyl pyridine) and СКМВП-15А (SKMVP-15A, 12.5% of 2-methyl-5-vinyl pyridine); 3) carboxyl-containing rubbers: types СКД-1 (SKD-1, 1.5% of methacrylic acid) and СКС-30-1 (SKS-30-1, 28% of styrene and 1.25% of methacrylic acid). The composition of the vulcanizates is given in Table 2. Rubber samples were swelled in paraffin oil, and their elongation measured as a function of stress (50-200 g). R. Rivlin's (Ref. 2) equation is written down:

$\Phi = 0.5 \cdot f \cdot A_o^{-1} \cdot v_2^{1/3}(\lambda - \lambda^{-2})^{-1}$ (1), where f is the load, A_o the cross

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section of the non-swelled sample, v_2 the volume fraction of the rubber in the swelled vulcanizate. The number of cross links in the vulcanizate is determined from this function: $\Phi = c_1 + \lambda^{-1} \cdot c_2 = 0.5 \cdot \varrho_r \cdot M_c^{-1} \cdot RT$ (2); ϱ_r is the rubber density, M_c the molecular weight of the chain between the space lattice points, c_1, c_2 are constants. c_1 is determined by graphic extrapolation of this function for $\lambda = 0$: $c_{1\ exper.} = 0.5\varrho_r RTM_c^{-1}$ (3). The values for v_2, c_1, c_2, and M_c are given in Table 3. The swelling equilibrium Q and the parameter μ were determined according to P. Flory (Ref. 4) (Table 4); the solubility parameter δ was represented as a function of $\sqrt{(\mu - 0.25)/v_s}$ (Fig.), where v_s is the molar volume of the solvent. The densities of cohesion energy of the rubbers mentioned, as well as of the formerly studied types НК (NK), СКИ (SKI), and СКБ (SKB), are given in Table 5. They lie between 68 and 75 cal/cm^2. An introduction of 2-methyl-5-vinyl pyridine groups increases the oil resistance of the rubber, as well as the vulcanization with polychloro compounds (benzotrichloride). An introduction of carboxyl groups increases the cohesion energy, but it has, like metal oxides, little effect on the interaction between rubber

Determination of the Density of Cohesion Energy of Some Synthetic Rubbers

S/190/60/002/010/006/026
B004/B054

and solvent. V. A. Grigorovskaya assisted in the experiments. There are 1 figure, 5 tables, and 5 references: 2 Soviet, 1 US, and 2 British.

ASSOCIATION: Nauchno-issledovatel'skiy institut shinnoy promyshlennosti (Scientific Research Institute of the Tire Industry)

SUBMITTED: March 30, 1960

Card 3/3

BASIN, V.Ye.; BERLIN, A.A.; UZINA, R.V.

Effect of the compatibility of adhesive polymers with casing rubber on the adhesive strength of rubber-cord systems. Kauch.i rez. 21 no.9:12-17 S '62. (MIRA 15:11)

1. Nauchno-issledovatel'skiy institut shinnoy promyshlennosti.
(Adhesion) (Polymers) (Tire fabrics)

REEL #38

BARTOSHEVICH, V.

to

BASIN, V. YE

END